## Consistency Evaluation: Bering Straits Coastal Resource Service Area Coastal Management Plan, Enforceable and Administrative Policies

## Savoonga Wind Turbine Installation Project

**Applicant: AVEC on behalf of the Denali Commission**
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## A. Subsistence

**A-1 Subsistence Use**
Subsistence use of the coastal lands and waters of the Bering Straits CRSA has traditionally been the primary and highest priority use of all lands and waters within the coastal management plan area; therefore, all other land/water uses and activities shall ensure that through careful planning, development, and operation of a resource extraction or development project, all steps will be taken to mitigate adverse impacts to subsistence resources and their use in accordance with Policy F-2.
**Evaluation: The project is located close to the developed community and airport; it will not conflict with existing subsistence uses.**

**A-2 Planning Processes [Administrative Policy]**
Where uses and activities may have a significant adverse impact on subsistence resources and activities, the Bering Straits CRSA Board shall work, if requested, with affected communities and resource-dependent users to identify subsistence resource concerns and to develop appropriate mitigative measures and stipulations for development activities, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: The project is located close to the developed community and airport; it will not conflict with existing subsistence uses. Mitigation is not required.**

**A-3 Access**
Traditional and customary access to subsistence use areas shall be maintained unless reasonable alternative access is provided for subsistence users.
**Evaluation: The project does not compromise or impact traditional and customary access to subsistence use areas.**

**A-4 Impacts on Subsistence**
Within Important Use Areas identified for subsistence resources and activities in Chapter 4, entities proposing non-subsistence uses or activities shall locate such uses and activities at alternative sites outside the identified areas. Where location in alternative sites is not feasible and prudent, uses and activities shall minimize adverse impacts to subsistence resources, subsistence activities, and coastal habitats.
**Evaluation: The project is located close to the developed community and airport; it will not conflict with existing subsistence uses.**

**A-5 Impact Research**
Major projects listed in Chapter 6.7 shall assimilate existing resource information and, where necessary, project applicants shall collect data to provide adequate information for identification and mitigation of adverse impacts to subsistence resources and activities in Important Use Areas identified in Chapter 4.
**Evaluation: Not applicable to this project.**

**A-6 Subsistence Conflicts with Recreation**
Recreational fishing and hunting access routes, facilities, and associated activities subject to permits and approvals shall be sited, constructed, and operated to minimize adverse impacts to subsistence activities.
**Evaluation: The project does not conflict with recreational fishing and hunting access routes, facilities and associated activities.**

**B. Habitat and Biological Resource Protection**

**B-1 Habitat Alteration**
Development activities and facility sites shall meet, at a minimum, the criteria established under State regulations (6 AAC 80.130) and Policies B-2 through B-10. Uses and activities that do not conform with Policies B-2 through B-10 may be allowed if:

1) there is a significant public need for the activity;
2) there are no feasible and prudent alternatives to meet the public need which would conform to the ACMP standards and other applicable policies in this section, and
3) all feasible and prudent steps to maximize conformance with the policies have been taken.

**Evaluation: There is a significant public need for the project – it will provide lower priced electricity and decrease the community's dependence on diesel oil which must be imported.**

**B-2 Habitat Maintenance**
All habitats shall be managed to maintain or enhance the biological, chemical, and physical characteristics of the habitat which contributes to its capacity to support living resources.
**Evaluation: The project provides long-term environmental benefits in that less oil will be transported into the community, decreasing the potential for oil spills and decreasing air emissions.**

**B-3 Offshore Areas**
Offshore areas shall be managed as a conservation zone in order to maintain or enhance subsistence, commercial, and sport fisheries and subsistence harvests.
**Evaluation: Offshore areas are not applicable to this project.**

**B-4 Estuaries**
Estuaries shall be managed to assure adequate water flow, natural circulation patterns and nutrient and oxygen levels, and to avoid the discharge of toxic wastes or silt and the destruction of productive habitats. These habitats shall be managed to maintain or enhance commercial, subsistence, and sport fisheries and subsistence harvests.
**Evaluation: Estuaries are not applicable to this project.**

**B-5 Wetlands and Tideflats**
Wetlands and tideflats shall be managed to assure adequate water flow, nutrients, and oxygen levels, and to avoid adverse changes in natural drainage patterns, the destruction of important or essential habitats, and the discharge of toxic substances.
**Evaluation: The project will affect wetlands as the entire Savoonga community is located in a wetland area. A Corps of Engineers 404 Wetlands permit has been applied for; the project will use best management practices in regards to working in wetlands – a stormwater pollution prevention plan (SWPPP) will be developed and adhered to: no fueling of vehicles will take place at the project site to avoid surface runoff and contamination of water bodies; petrochemical and other hazardous substance spill clean up material will be available on site; fill will be stabilized and controlled to avoid silts carried to natural bodies of water; silt fencing will be installed parallel to the fill toe and will remain in place until the fill has stabilized; all work areas, access routes and surrounding wetlands involved with the construction will be clearly marked in such a way that equipment operators do not operate outside of the delineated project site.**

**B-6 Rocky Islands and Seacliffs**
Rocky islands and seacliffs shall be managed to avoid the harassment of wildlife, the destruction of important or essential habitats, and the introduction of competing or destructive species or predators.
**Evaluation: Not applicable to this project.**

**B-7 Barrier Islands and Lagoons**
Barrier islands and lagoons shall be managed to maintain adequate flows of sediments, detritus, and water, to avoid the alteration or redirection of wave energy which would lead to unnatural deposition in lagoons or the erosion of the islands, and to discourage activities which would decrease their use by coastal species

including polar bears and birds.
**Evaluation: Not applicable to this project.**

**B-8 High Energy Coasts**
High energy coasts shall be managed to assure the adequate mixing and transport of sediments and nutrients, and to avoid the redirection or interruption of transport processes and wave energy.
**Evaluation: Not applicable to this project.**

**B-9 Rivers, Lakes, and Streams**
Rivers, lakes, and streams shall be managed to protect natural vegetation, water quality, important and essential habitats, and natural water channels and flows necessary for maintenance of fish and wildlife habitats.
**Evaluation: Not applicable to this project.**

**B-10 Upland Habitats**
Important and essential habitats in upland areas shall be managed to maintain natural drainage patterns, surface and groundwater quality, and natural ground-water recharge areas. Alteration of vegetation shall be minimized to prevent excessive run-off, hydraulic or thermal erosion, or decreased biological productivity.
**Evaluation: Not applicable to this project.**

**B-11 Instream Flow**
Except for public water supplies and domestic use, appropriation of water from rivers, streams, lakes, or wetlands shall not decrease instream flow below the amount determined necessary by the Alaska Department of Fish and Game and/or U.S. Fish and Wildlife Service to protect fish habitat and production and waterfowl habitat unless, in accordance with AS 46.15, the Commissioner of the Alaska Department of Natural Resources makes a finding based on public review that (1) the competing use of water is in the best public interest, and (2) no feasible and prudent alternative exists. Where a water appropriation, or the cumulative impact of more than one water appropriation, has the potential to decrease instream flow below the amount necessary for fish and waterfowl habitat and production, project applicants shall be required to provide the data necessary to determine instream flow.
**Evaluation: Not applicable to this project.**

**B-12 Fish Passage**
B-12.1Development activities, facilities, and structures shall be designed, sited, constructed and operated in a manner which does not impede or interfere with timely access to spawning streams by adult anadromous fish or movements of juvenile anadromous fish.
B-12.2All temporary and permanent drainage structures constructed across anadromous fish streams, including multiple channels within the annual floodplain, shall provide for free and unrestricted movement of adult, fry, and juvenile anadromous fish which are present in the stream in accordance with the following criteria:

- Culverts shall be placed in and aligned with the natural stream channel and installed so that at least one-fifth of the diameter of each round culvert and at least six inches of the height of each elliptical or arch culvert is installed below the streambed at both the inlet and outlet of the drainage structure.
- Culverts shall be designed to accommodate upstream movement of the slowest swimming anadromous fish species or age class using the watercourse.

**Evaluation: Most likely, not applicable to this project, however, if necessary the access driveways will have culverts installed to above standards to facilitate fish passage.**

**B-13 Maintenance of Stream Characteristics**
All permanent bridges and culverts shall, to the extent feasible and prudent, be positioned to avoid changing the direction and velocity of the stream flow. Drainage structure shall be adequately sized to accommodate the best available estimate of the 25-year peak discharge without significantly interfering with volume, velocity, sediment transport, or substrate characteristics of the stream where these properties are important to the uses of the stream.
**Evaluation: Not applicable to this project.**

**B-14 Use of Explosives**

To protect fish, explosives shall not be detonated within, beneath, or adjacent to marine, estuarine, or fresh waters that support fish unless the detonation of the explosives produces or is likely to produce an instantaneous pressure change in the water body of no more than 2.5 psi (pounds per square inch), or produces or is likely to produce a peak particle velocity greater than 0.5 ips (inches per second) in a spawning bed during the early stage of egg incubation. Setbacks from fish-bearing waters shall be required to insure that buried explosive charges meet the criteria shown in Table 5-1 (Distance to Fish-Bearing Waters) and Table 5-2 (Distance to Spawning Beds). These criteria do not apply if the water body, including its substrate, is frozen or if no fish are present. (Please contact DGC or the district for Table 5-1 and 5-2 from the document.)

**Evaluation: Not applicable to this project.**

**B-15 Water Intake Structures**

Where water removal has been authorized from rivers, lakes, streams, or wetlands occupied by fish, the intake structure shall be designed, operated, and maintained to prevent entrainment or impingement of fish. Site specific requirements for water intake structures in anadromous fish waters shall comply with the screening and maximum velocity criteria presented in Table 5-3. (See hard copy of document for Table 5-3 or call DGC.)

**Evaluation: Not applicable to this project.**

**B-16 In-water Facilities and Structures**

To the extent feasible and prudent, structures and facilities constructed in or over rivers, streams, lakes, wetlands, tideflats, or marine waters shall be located, designed, and constructed to:

(a) avoid degradation of water quality;
(b) avoid obstructions to fish and wildlife migration, spawning, and rearing; and
(c) avoid obstructions to navigation, commercial fishing, and subsistence harvest activities.

**Evaluation: Pads and driveway embankments constructed for this project will use best management practices (delineated above in B-5) to avoid degradation of water quality, avoid obstructions to fish and wildlife migration, spawning and rearing. Item B-16 (c), above, does not apply to this project.**

**B-17 Snow Removal From Waterbodies**

Snow shall not be removed or compacted on ice cover overlying waterbodies which support fish except for perpendicular crossings of frozen streams, as approved by the Alaska Department of Fish and Game.

**Evaluation: Not applicable to this project.**

**B-18 Marine Mammal Haulouts and Seabird Colonies**

Seabird colony sites and haul-outs and rookeries used by walrus, sea lions, and seals (Volume 1, Map 10, or as updated in the ADF&G Regional Habitat Management Guides) shall not be physically altered or disturbed by structures or activities in a manner that would preclude or significantly interfere with continued use of these sites. Development structures and facilities shall maintain a one-half mile buffer from identified use areas for walrus, sea lions, seals, and seabirds. Land and water activities with high levels of acoustical or visual disturbance shall, to the extent feasible and prudent, be conditioned in appropriate permits, leases, and plans of operation to prohibit these activities within:

(a) one-half mile of walrus or sea lion haul-outs from May 1 through December 31;
(b) one-half mile of seal haul-outs from March 1 through September 30; and
(c) one mile of seabird colonies from April 15 through September 30.

**Evaluation: Not applicable to this project.**

**B-19 Disturbance by Aircraft**

To minimize adverse disturbances to seabird colonies (Volume 1, Map 10, or as updated in the ADF&G Regional Habitat Management Guides), fixed-wing and helicopter aircraft shall maintain a minimum altitude of 2,000 feet or a 1.5 mile horizontal distance from identified colony sites between April 15 and September 30. To minimize adverse disturbances to walrus, sea lion, and seal haul-out sites (Volume 1, Map 10, or as updated in the ADF&G Regional Habitat Management Guides), fixed-wing and helicopter aircraft shall maintain a minimum altitude of 2,000 feet or a one-half mile horizontal distance from identified haul-out sites between May 1 and

December 31 for walrus and sea lions, and between March 1 and September 30 for seals.

These conditions shall not be applicable where safety, weather conditions, or authorized destination within the area of concern dictate otherwise.
**Evaluation: Not applicable to this project.**

**B-20 Reindeer Fawning Areas**
Development activities shall minimize disturbance to the primary reindeer fawning areas shown in Volume 1, Map 10, during the fawning period from April 15 through May 15. Development activities and uses shall maintain the integrity and function of authorized and permitted reindeer fawning areas and shall not preclude access to fawning areas. The Bering Straits CRSA Board shall annually provide supplemental information concerning currently used reindeer fawning areas to the State and federal resource agencies.
**Evaluation: Not applicable to this project.**

**B-21 Endangered Species**
Development activities shall not cause significant impacts to the habitats or populations of the endangered bowhead whale, gray whale, peregrine falcon, or other designated endangered species identified by the State or federal governments.
**Evaluation: The project has undergone a formal section 7 consultation with the U.S. Fish & Wildlife Service regarding the threatened Spectacled Eider. The USF&WS issued a Biological Opinion in 2005, and continues to work with AVEC to determine adequate monitoring techniques to track and prevent Spectacled Eider deaths.**

**C. Air, Land, and Water Quality**

**C-1 State and Federal Regulations**
State and federal statutes, regulations, and procedures pertaining to the protection of air, land, and water quality are incorporated into the Bering Straits CRSA coastal management program.
**Evaluation: The project will adhere to state and federal statutes, regulations, and procedures pertaining to the protection of air, land, and water quality as they affect the project.**

**C-2 Water Quality Standards**
C-2.1 Domestic and public water supplies, fresh and marine waters important for the growth and propagation of fish, wildlife, and plants, and waters used for recreation shall be classified by the Alaska Department of Environmental Conservation (ADEC) for water quality standards necessary to maintain or enhance these uses. Reclassification of waters shall be made through ADEC amendment procedures.
**Evaluation: A water quality assurance certification will be requested from the Alaska Department of Environmental Conservation (ADEC) concurrent with the Corps of Engineers 404 Wetlands permit.**

C-2.2 All permits, leases or plans of operation for land and water uses which may directly affect water quality shall require that these activities be sited, designed, constructed, and operated to provide a reasonable assurance that discharges will meet state and federal water quality standards for the receiving water use criteria.
**Evaluation: The project is sited, designed and will be constructed and operated to provide reasonable assurance that discharges will meet state and federal water quality standards as above.**

**C-3 Environmental Protection Technology**
To the extent feasible and prudent, equipment and procedures utilizing the most effective technology for limiting emissions and effluents, and for the storage, handling, cleanup, and disposal of oil and other toxic substances shall be required for industrial, military, energy, and transportation facilities.
**Evaluation: This standard will be adhered to as is necessary for the project, best management practices will be used for the storage, handling, cleanup and disposal of any oil and other toxic substances used on-site – expectation is that use of these substances on-site will be minimal to non-existent.**

**C-4 Hazardous Materials and Toxic Substances [Administrative Policy]**
C-4.1 Planning Processes: The Bering Straits CRSA Board shall work, if requested, with entities proposing treatment, storage, transportation, or disposal of hazardous materials or toxic substances to provide the Bering Straits CRSA Board, affected communities, Native corporations, and appropriate landowners the opportunity to participate in the planning process for the treatment, storage, transportation, or disposal of hazardous materials or toxic substances, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: The Bering Straits CRSA Board will be consulted as necessary during the design and construction of the project.**

C-4.2 Storage, transportation, cleanup, and disposal of hazardous materials and toxic substances, petroleum and petroleum products shall comply with state regulations and federal regulations, including provisions for public notice and public participation.
**Evaluation: Storage, transportation, cleanup, and disposal of hazardous materials and toxic substances are not expected to take place on site. However, if it is the case, such practices will comply with state and federal regulations.**

C-4.3 Hazardous materials, toxic substances, petroleum, or petroleum products as defined in State and federal regulations, shall not be disposed of on barrier islands, on sea ice, in marine waters, or in any rivers, streams, lakes, or wetlands in the region.
**Evaluation: Given that the project takes place on wetlands, a Stormwater Pollution Prevention Plan and best management practices will be followed with regards to hazardous materials, toxic substances, petroleum, or petroleum product disposal. Disposal will not take place on-site.**

**C-5 Siting of Facilities [Administrative Policy]**
The Bering Straits CRSA Board shall work, if requested, with developers of proposed industrial facilities to evaluate emissions and effluent dispersion, and assist in the siting of industrial facilities, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: The Bering Straits CRSA Board will be consulted as necessary during the design and construction of the project.**

**C-6 Cumulative Impacts**
The cumulative impacts of new industrial development on the air and water quality of the district shall be considered in the review of proposed development projects. The cumulative effects on ambient air and water quality from proposed development projects shall meet all applicable requirements of State and federal laws and regulations.
**Evaluation: Once operational, the project will decrease cumulative effects of petroleum related emissions on the ambient air and water quality.**

**C-7 Refuse Disposal**
State requirements for solid waste management and drinking water shall be adhered to in the operation and siting of disposal sites for refuse and putrescible wastes. Additionally, to the extent feasible and prudent, disposal sites for refuse and putrescible wastes shall:

C-7.1 Be located in upland sites a minimum of 1,500 feet from domestic water sources or fish-bearing water-bodies, and a minimum of 200 feet from any surface waters. The appropriate setback shall be determined following a site-specific surface and substitute hydrological investigation;

C-7.2 Be located to avoid destruction of important or essential habitats;

C-7.3 Be designed and operated to avoid pollution of surrounding areas and to avoid creation of an attractive nuisance for wildlife, i.e. prevent garbage foraging by wildlife;

C-7.4 Provide for the incineration of combustible materials generated by new development activities, unless the environmental effects of incineration are more detrimental than disposal in a landfill or removal from the CRSA; and

C-7.5 Ensure that offshore developments, marine vessels, and floating fish processors shall dispose of refuse only in approved, onshore disposal sites. Floating fish processors shall dispose of fish processing wastes only at locations authorized by appropriate state and federal permitting agencies.
**Evaluation: Refuse will not be disposed of on-site, refuse will be disposed of at the City of Savoonga class III landfill.**

**C-8 Sewage Disposal**
Where feasible and prudent, sewage ponds and treated sewage outfalls shall be setback a minimum of 1,500 feet from currently used domestic water supplies or fish-bearing waters, and a minimum of 200 feet from any surface waters. The appropriate setback shall be determined following a site-specific surface and subsurface hydrological investigation.
**Evaluation: Not applicable to this project, sewage will not be treated or disposed of on-site.**

**C-9 Storage of Petroleum and Petroleum Products**
Facilities for the storage of petroleum and petroleum products shall be in compliance with federal and state oil pollution regulations and regulations regarding drinking water supplies. Additionally, to the extent feasible and prudent, facilities for the storage, processing, or treatment of 5,000 gallons or more of petroleum or petroleum products shall be sited a minimum of 500 feet from domestic water supplies and any surface waters. Impermeable berms and basins capable of retaining 110 percent of the tank capacity (or capacity of the largest tank where multiple tanks are separately valved) plus maximum accumulated precipitation shall be required to minimize the potential for inadvertent pollution. For facilities of 5,000 gallons or more, a plan of operation for the facility, and for the recovery, storage, and transportation of spilled petroleum or petroleum products shall be prepared.
**Evaluation: Not applicable to this project, storage of petroleum and petroleum products will not take place on-site.**

**C-10 Oil Spill Contingency Plans [Administrative Policy]**
The Bering Straits CRSA Board shall, if requested, work with project sponsors to provide that affected communities and landowners be involved in the development and review of oil spill contingency plans, when such plans are required of project sponsors by federal or state statutes or regulations, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: Not applicable to this project.**

**C-11 Siltation and Sedimentation**
Development uses, activities, and facilities shall not induce increased sedimentation, siltation, and resulting turbidity which could have a significant adverse impact to aquatic productivity and habitats, marine fish, shellfish, or anadromous fish populations in marine, estuarine, and freshwater environments.
**Evaluation: The project will follow a SWPPP to prevent sedimentation, siltation, and resulting turbidity.**

**C-12 Discharge of Drilling Muds, Cuttings, and Production Waters**
C-12.1The discharge of drilling muds, cuttings, and production waters into marine waters of the district shall adhere to NPDES conditions and the Alaska Coastal Management Program consistency requirements incorporated in or accompanying the NPDES permit. The Alaska Department of Environmental Conservation Certificate of Reasonable Assurance for NPDES permits shall require discharges to have no significant, acute, or cumulative adverse impacts on fish, wildlife, or aquatic plant resources.
C-12.2Discharges of drilling muds, cuttings, or production waters to fresh water lakes, streams, wetlands, or to estuarine waters shall not be permitted.
C-12.3Whenever feasible and prudent, disposal of produced waters in upland areas shall be accomplished using reinjection techniques.
**Evaluation: Not applicable to this project.**

**C-13 Oil and Gas Operations**
Oil and gas plans of operation, and development and production plans must contain “best available technology” oil spill detection, containment, and clean-up measures which will minimize adverse impacts to

fish and wildlife habitats, commercial fishing, and subsistence resources and activities.
**Evaluation: Not applicable to this project.**

**C-14 Nuclear Testing**
Uranium fuel processing facilities and nuclear testing shall be sited and conducted in a manner that does not adversely affect fish, birds, animals, vegetation, or people in the Bering Straits CRSA.
**Evaluation: Not applicable to this project.**

**D. Historic, Prehistoric, and Archaeological Sites**

**D-1 Regional and Local Planning [Administrative Policy]**
It is the policy of the Bering Straits CRSA Board that cultural resources be considered during development of regional and local planning activities, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: Cultural resources have been considered during the development and planning of this project.**

**D-2 Cultural Resource Areas**
Based on the limited inventory of historic and archaeological sites in the region and the variety of environmental settings in which they have been found, all areas within the coastal zone boundary are considered to have the potential to contain significant cultural resources. Evaluation of potential impacts to significant cultural resources and appropriate mitigation shall be the responsibility of entities proposing development activities. Project sponsors proposing development activities with the potential to adversely affect cultural resources shall provide an assessment and evaluation of identified cultural resource sites. This shall include referring to BSCRSA Volume 2, Map 5.1 to see if the project is within a township where cultural sites have been documented. If the project is within such a township, the district and State Historic Preservation Office shall be contacted for more site-specific information. The district may identify local residents with site-specific knowledge. Where there is potential for undiscovered cultural sites in a project area, the appropriate federal and state agencies and the district, in consultation with affected communities, shall determine if a cultural resource survey is needed prior to surface disturbance activities.
Uses and activities which may adversely affect cultural resource areas shall comply with the following standards:
D-2.1 To the extent feasible and prudent, archaeological, prehistoric, and historic resources shall be protected from adverse impacts caused by adjacent uses and activities.
D-2.2 Prior to major projects listed in Chapter 6.7, the project applicant shall conduct a review, contact the State Historic Preservation Office, and ensure that areas or artifacts of significant historic, prehistoric, or archaeologic importance will not be disturbed or destroyed during project development.
D-2.3 If previously undiscovered artifacts or areas of historic, prehistoric, or archaeologic importance are encountered during development activities, the Bering Straits CRSA Board and the State Historic Preservation Office shall be notified. The site shall be protected from further disturbance pending evaluation by the State Historic Preservation Office.
**Evaluation: Memorandum of Agreement relating to cultural resources was signed by the Denali Commission, SHPO, AVEC, representatives of the Savoonga Native Corporation, and the Sivuqaq Corporation was signed in 2004. The MOA provides for an archeologist to monitor on-site construction and delineates protocol for dealing with any found cultural material.**

**D-3 Traditional Activities**
Uses and activities which require permits or approvals and which may impact traditional activities at cultural or historic sites shall avoid or mitigate significant impacts. Appropriate mitigation is determined by the State and district in consultation with the landowners, affected communities, and the regional non-profit corporation.
**Evaluation: This standard will be adhered to, see D-2, above.**

**D-4 Data Requirements [Administrative Policy]**
Prior to any major archaeological project within the district, adequate information provided by project

sponsors to the Bering Straits CRSA Board and affected communities will be used to determine the purpose of the project and the anticipated impacts to cultural resources, fish and wildlife and their habitats, plant resources, and subsistence activities identified in the Bering Straits coastal management program, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: AVEC performed the necessary consultation with the community prior to the archeological survey for this project.**

**D-5 Removal of Artifacts**
All state and federal regulations governing removal of artifacts must be met. Additionally, on private lands, artifacts shall not be removed from the Bering Straits CRSA without permission of the affected landowner. On public lands, artifacts shall not be removed from the Bering Straits CRSA without permission from the affected communities and the regional non-profit corporation.
**Evaluation: Regulation of artifact removal is addressed in the Memorandum of Agreement established for this project, see D-2, above.**

**D-6 Cultural Resource Orientation**
For major projects listed in Chapter 6.7, the project applicant shall inform construction and operation workforces of the importance of historic and cultural resources to local residents, and of the state and federal laws prohibiting disturbances of such resources.
**Evaluation: The Memorandum of Agreement for Cultural Resources includes the requirement for informing construction and operation workforces of the importance of historic and cultural resources to local residents and of state and federal law prohibiting disturbances of such resources.**

**E. Geophysical Hazards**

**E-1 Design and Siting Criteria**
Industrial and commercial development, public buildings, and public housing projects shall not be located in a geophysical hazard area if a feasible and prudent alternate site exists. Development in geophysical hazard areas shall incorporate appropriate siting, design, construction, and operation measures to minimize property damage, minimize potential impacts to the environment, and protect against loss of life.
**Evaluation: The project is not located in a geophysical hazard area.**

**E-2 Local Knowledge [Administrative Policy]**
It is the policy of the CRSA Board that information concerning known geological hazards be supplemented with the knowledge and experience of local residents, particularly elders. The Bering Straits CRSA Board shall, if requested, in cooperation with local villages, assist development entities in obtaining this information, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: AVEC consulted with the local community regarding facility siting, this consultation included the use of local and traditional knowledge.**

**E-3 Coastal Processes**
Development and resource extraction activities shall be sited and conducted to minimize accelerated coastal erosion or adverse impacts to coastal processes which could contribute to increased geophysical hazards.
**Evaluation: The project is located inland and will not create coastal erosion and adverse impacts to coastal processes.**

**E-4 Coastal Storm Surge/Tsunami Flooding**
To the extent feasible and prudent, industrial and commercial development, public buildings, and public housing projects shall not be located within areas subject to storm surge or other saltwater flooding. When siting within such areas is unavoidable, structures shall be located, designed, constructed, and operated to minimize property damage, minimize potential impacts to the environment, and protect against loss of life.
**Evaluation: The project is not located in an area subject to storm surge or other saltwater flooding.**

**E-5 Hazards**
To the extent feasible and prudent, new developments shall avoid areas subject to landslide and mass wasting hazards. Industrial and commercial developments, public buildings, and public housing projects shall incorporate appropriate siting, design, construction, and operation measures to minimize the hazards.
**Evaluation: Not applicable to this project, the project is not located in an area subject to landslide and mass wasting hazards.**

**E-6 Riverine Flooding**
To the extent feasible and prudent, industrial and commercial developments, public buildings, and public housing projects shall not be sited within the annual floodplain and highwater channels of rivers, streams, and lakes. Where siting of facilities within this area is unavoidable, structures must be designed and constructed to minimize property damage, minimize impacts to the environment, and protect against loss of life.
**Evaluation: Not applicable to this project.**

**E-7 Permafrost**
Development activities and uses shall incorporate measures for protection of the organic mat and underlying permafrost into project planning, designing, and construction. Where disturbance of the organic mat is unavoidable, the area disrupted shall be stabilized to avoid degradation of the permafrost.
**Evaluation: The project design has taken into account the protection of the organic mat and underlying permafrost as much as possible.**

**E-8 Ice Hazards**
To the extent feasible and prudent, shoreline and offshore developments shall avoid areas subject to ice hazards such as ice over-ride, ridging, and gouging. Development within such areas shall be subject to siting, design, and construction and operation measures which minimize the potential hazards.
**Evaluation: Not applicable to this project.**

## F. Coastal Development

**F-1 Water-Dependent and Water-Related Activities**
In planning for and approving development in shoreline and waterfront areas, the Bering Straits coastal management program and state agencies shall give priority, in the following sequence, to:

a) water-dependent uses and activities;
b) water-related uses and activities; and
c) uses and activities which are neither water-dependent nor water-related, for which there is no feasible and prudent inland alternative to meet the public need for the use or activity.

**Evaluation: Not applicable to this project.**

**F-2 Mitigation**
All land and water use activities shall be conducted with appropriate planning and implementation to mitigate potentially adverse effects on the following resources of local, State, or national importance: fish and wildlife populations and their habitats; subsistence resource uses and activities; commercial fishing uses and activities; and cultural resources. Mitigation shall include and be considered in the following order of preference:

a) attempt to avoid the loss of the affected resource or activity;
b) when the loss cannot be avoided, minimize the loss and the need for restoration, maintenance, or compensation efforts;
c) when the loss of resources and/or associated activities cannot be minimized, restore or rehabilitate the resource to its predisturbance condition, to the extent feasible and prudent; and
d) when loss or damage to existing resources and associated activities is substantial and irreversible (including, for example, a seasonal loss in commercial fishing or subsistence harvest) and the above objectives cannot be achieved, compensation for resource and/or harvest loss shall be considered. In the case of loss of habitat production potential,

enhancement of other habitats shall be considered as one alternative means of compensation.

The costs of mitigation, relative to the benefits to be gained, will also be considered in implementation of this policy.

**Evaluation: The project is not expected to create adverse effects on fish and wildlife populations and their habitats; subsistence resource uses and activities; commercial fishing uses and activities; and cultural resources. The project will be subject to archeological monitoring for cultural resources – see D-2 above.**

**F-3 Dredge and Fill**

Dredging or filling operations which may have a significant, adverse effect on important or essential fish and wildlife habitat shall be prohibited unless no feasible and prudent upland alternative site exists to meet the public need for the proposed project. If no feasible and prudent alternative is available, the project shall be designed, constructed, and maintained to minimize the area of disturbance, disruption of drainage patterns, and the need for continual maintenance of the project.

**Evaluation: This standard will be adhered to as is necessary for the project.**

**F-4 Dredge Spoil Disposal**

Dredge spoils from construction-related activities shall be disposed of in approved onshore sites. Discharge may occur in an approved offshore area if the material is suitable fill for an approved project, or would cause less adverse impact to the environment, subsistence activities, and historic/cultural sites. Offshore disposal shall meet applicable State and federal regulations. Dredged spoil disposal shall avoid significant adverse impact to important and essential habitats and significant alteration of shoreline processes. Onshore disposals shall be contained and stabilized to prevent erosion and leaching into adjacent waters.

**Evaluation: Not applicable to this project.**

**F-5 Enclave Development**

To the extent feasible and prudent, housing, camp facilities, and other infrastructure in support of major development projects shall be located in enclaves separated from existing communities, unless the affected community approves of a different arrangement.

**Evaluation: There is no camp facility in Savoonga. A local home is rented for project crews.**

**F-6 Infrastructure and Public Services [Administrative Policy]**

The Bering Straits CRSA Board shall, if requested, work with sponsors of major development projects listed in Chapter 6.7 which require a significant increase in infrastructure, utilities, or public services to ensure that the affected communities are appraised and receive reasonable advance notification of the proposed project needs, schedule, and specific plans to minimize the impact of development activities on the affected community, in accordance with the procedures identified in Chapter 6, Implementation.

**Evaluation: Not applicable to this project, AVEC has worked closely with the community to plan this development.**

**F-7 Development Timing**

To the extent feasible and prudent, offshore resource exploration and development activities shall be scheduled and/or located to avoid impacts to commercial fishing and subsistence activities. Where significant adverse impacts cannot be avoided, mitigation shall be considered in accordance with policy F-2.

**Evaluation: Offshore resource exploration and development activities are not applicable to this project.**

**F-8 Minimize Adverse Shoreline Disturbance**

To maintain the stability and function of the marine coastline, stream and river banks, and lake shorelines, commercial and industrial development facilities and structures shall not be located closer than 100 feet from higher-high water (HHW) of coastlines and ordinary high water of river, stream, and lake shorelines unless the use or activity is water-dependent or water-related. Commercial or industrial uses and activities which are neither water-dependent or water-related may occur only if there is no feasible and prudent alternative to meet the public need.

**Evaluation: Not applicable to this project, project is located well inland of 100 feet of coastline.**

**F-9 Completion of Use**
Upon abandonment, completion of use, or expiration of authorization (whichever occurs first), facilities, structures, and debris shall be removed by the project sponsor and the site rehabilitated unless there is a demonstrated future use for the site, as determined by appropriate state agencies and the district in consultation with affected communities and the project sponsor, or unless such removal and rehabilitation would cause greater impacts than abandonment. Where feasible and prudent, gravel removed from abandoned roads and pads shall be restored in approved sites for reuse in future construction.
**Evaluation: Upon completion of project and/or at the end wind turbine useful life, all structures will be removed and the site rehabilitated or made suitable for other use.**

**F-10 Multiple Use**
To the extent feasible and prudent, ports, piers, cargo handling, storage, parking, and other coastal facilities shall be designed and utilized to minimize the need for duplicative facilities. Subsequent use of facilities for purposes other than their original intent shall also be a consideration in the siting and design of coastal facilities.
**Evaluation: Not applicable to this project.**

**F-11 Compatibility**
To the extent feasible and prudent, activities on and uses of coastal lands and waters shall be compatible with adjacent land and water uses, including subsistence.
**Evaluation: The project is compatible with adjacent land and water uses.**

**F-12 Compliance Monitoring**
For coastal developments and activities, the permitting or authorizing agency shall discuss and cooperatively set, as funding permits, monitoring priorities with the district to insure compliance with stipulations and special conditions on permits or authorizations.
**Evaluation: To date, 2 agencies have set monitoring stipulations – the SHPO and USF&W. It is expected that the Corps of Engineers will also have project specific stipulations in their permit when issued. All stipulations and conditions will be adhered to.**

**G. Mining and Mineral Processing**

**G-1 Access to Minerals**
Where feasible and prudent, new residential, commercial, or industrial development shall not be sited in locations which would preclude or significantly hinder the effective and safe development and extraction of identified mineral deposits.
**Evaluation: Not applicable to this project.**

**G-2 Planning Processes [Administrative Policy]**
Entities proposing major mining or mineral processing activities are strongly advised to provide the Bering Straits CRSA Board, affected communities, and affected landowners an opportunity to participate in planning processes, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: Not applicable to this project.**

**G-3 Sand and Gravel Priority Areas**
To the extent feasible and prudent, sources of sand and gravel shall be authorized in a descending order of priority, as follows:

a) existing, approved upland sand and gravel pits;
b) reuse of sand and gravel from abandoned development areas;
c) new upland sand and gravel pits;
d) rivers, streams, and lakes that do not support fish;
e) marine shoreline and offshore sand and gravel sources; and
f) floodplain sand and gravel sources in fish-bearing streams.

**Evaluation: Fill for the project will be obtained from the local existing gravel pit.**

**G-4 Floodplain Sand and Gravel Extraction**
If removal of sand and gravel from streams and rivers for construction, sale, or related purposes cannot be avoided, the following policies apply:

G-4.1 To the extent feasible and prudent, sand and gravel shall be extracted from the following river configurations in the order of highest to lowest preference: braided, split channel, meandering, sinuous, and straight. When possible, exposed sand and gravel bars in broad, active floodplains shall be considered for extraction.
**Evaluation: Not applicable to this project.**

G-4.2 To the extent feasible and prudent, changes to channel hydraulics shall be avoided.
**Evaluation: Not applicable to this project.**

G-4.3 Sand and gravel pits shall be located to minimize the probability of channel diversion through the site.
**Evaluation: Not applicable to this project.**

G-4.4 The effects of sand and gravel removal shall be minimized by maintaining buffers between active channels and the work area and by avoiding instream work, unnecessary clearing of riparian vegetation, and disturbance to natural banks.
**Evaluation: Not applicable to this project.**

G-4.5 To the extent feasible and prudent, site configurations shall avoid the use of long straight lines and shall be shaped to blend with physical features and surroundings to provide for diverse riparian and aquatic habitats.
**Evaluation: Not applicable to this project.**

G-4.6 If the work area may be inundated by high water during the period of operation, temporary dikes shall be constructed around the site to segregate the work area from active channels and avoid the entrapment of fish.
**Evaluation: Not applicable to this project.**

G-4.7 Removal of sand and gravel from floodplains of fish bearing streams shall not adversely impact spawning or overwintering habitat.
**Evaluation: Not applicable to this project.**

G-4.8 When gravel washing operations occur in the floodplain, settling ponds shall be used to remove suspended materials from the wash water; settling ponds shall be adequately diked or set-back from active channels to avoid breaching by a 10-year frequency flood. Wash water shall be recycled or other appropriate mining technologies will be utilized so that the effluent discharge complies with State and federal water quality regulations.
**Evaluation: Not applicable to this project.**

**G-5 Overburden Disposal**
Overburden shall not be disposed of in lakes, within the mean annual floodplain of streams or rivers, or below the limit of mean high water in intertidal areas and estuaries. Whenever feasible and prudent, overburden in upland areas shall be saved and replaced on the disturbed area to conform to the natural topography as part of the reclamation process.
**Evaluation: Not applicable to this project.**

**G-6 Reclamation and Restoration**
Reclamation of all upland and floodplain mined sites shall be required unless such reclamation would cause greater adverse impact to the environment. At a minimum, reclamation shall include the following elements, as applicable:
**Evaluation: Not applicable to this project.**

G-6.1 Topsoil shall be segregated from overburden, and both shall be stored above the mean annual

floodplain of rivers, streams, and lakes. Topsoil for these purposes is defined as the layer of mineral and organic material in which fibrous plant roots can survive.
**Evaluation: Not applicable to this project.**

G-6.2 At the end of each mining operation season, all disturbed areas shall be graded to stable slopes or otherwise stabilized to minimize erosion. Within mean annual floodplains, regrading to ground contours which will not entrap fish nor significantly alter stream hydraulics shall occur at the cessation of each operating season. Sand and gravel materials used in the construction of settling ponds and other essential facilities may be retained in place until completion of use.
**Evaluation: Not applicable to this project.**

G-6.3 At the completion of mining activities or sand and gravel extraction, all disturbed areas shall be stabilized and revegetated, as appropriate. Restoration shall include the following:

a) All disturbed areas shall be graded to stable slopes that blend with the natural topography;
b) Erosion control measures shall be implemented as appropriate to stabilize the site; and c) Areas designated for revegetation shall be covered with topsoil to encourage establishment of native plant species.

An exception to these requirements is provided for the portion of a sand or gravel extraction site required to provide materials for continuing maintenance and operation activities. Maintenance of sand and gravel sites will comply with the requirements of part G-6.2 of this policy.
**Evaluation: Not applicable to this project.**

**G-7 Coastal Gravel Extraction**
Sand and gravel may be extracted from coastal waters, intertidal areas, barrier islands, and spits only when there is no feasible and prudent alternative to coastal extraction which will meet the public need for the sand or gravel. Such extraction activities shall minimize adverse impacts on wave energy, sediment transport, herring and anadromous fish spawning and rearing habitats, and waterfowl habitat; minimize increases in shoreline erosion; and minimize increases in turbidity and sedimentation.
**Evaluation: Not applicable to this project.**

**G-8 Offshore Mining and Extraction of Sand and Gravel**
G-8.1 Extraction of sand and gravel or recoverable minerals from the sea bottom in offshore areas shall avoid significant adverse impacts to important and essential habitats, commercial fishing activities, subsistence harvest activities, and navigation.
G-8.2 Extraction of offshore sand and gravel or recoverable minerals within a one mile radius from the ordinary high water mark of anadromous fish streams, measured from their confluence with mean lower-low water may be allowed only after the project applicant provides information demonstrating to appropriate state agencies and the district that mining and related activities will avoid significant adverse impacts to anadromous fish and their habitat.
**Evaluation: Not applicable to this project.**

G-8.3 Dredge spoils and processed materials associated with offshore mining for recoverable minerals shall be discharged on the sea bottom in the area from which they were extracted unless discharge in an approved offshore or onshore site would cause less impact to the environment, subsistence activities, and historic/cultural sites.
G-8.4 Offshore mining and mineral processing activities shall avoid discharge of toxic substances (as defined in Department of Environmental Conservation regulations) in processing effluent in concentrations which exceed state or federal water quality criteria at the boundary of an approved mixing zone, or, if no mixing zone has been approved, at the point of discharge. In areas where toxic substances occur naturally in bottom sediments, offshore mining activities shall not resuspend such toxic substances in the water column in excess of that allowed by water quality regulations or contribute to additional bioaccumulation of toxic substances in marine organisms or fish.
**Evaluation: Not applicable to this project.**

**G-9 Placer Mining**
G-9.1 Extraction of placer deposits shall avoid significant adverse impacts to important and essential habitats, commercial fishing activities, and subsistence harvest activities. If adverse impacts cannot be avoided, those impacts must be mitigated in accordance with Policy F-2.
G-9.2 Placer operations which discharge processing wastewater to rivers or streams shall incorporate functional sediment control facilities or techniques into the design and operation of the placer mine, as appropriate to meet State and federal water quality standards for effluent discharge.
G-9.3 Maximum use of recycled water or other appropriate mining technologies shall occur to minimize water withdrawal from the stream and subsequent discharge of effluent to adjacent waters.
G-9.4 All placer operations shall be designed, constructed, and operated in compliance with applicable State and federal regulations and water quality standards.
G-9.5 Placer mining operation sites shall be rehabilitated upon completion of use in accordance with Policy G-6. Tailings and processed materials shall be stabilized or contained as appropriate to avoid accelerated erosion and prevent leaching of toxic substances that may be present with the target minerals.
**Evaluation: Not applicable to this project.**

**H. Energy Facilities**

**H-1 Planning Requirements [Administrative Policy]**
The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities the opportunity to participate in planning processes for major industrial and commercial facilities, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: The community of Savoonga is actively involved in the planning process for this development.**

**H-2 Siting Consideration**
To the extent feasible and prudent, the siting and approval of major industrial and commercial facilities shall be based on the following standards:
H-2.1 Facilities shall be sited to minimize adverse environmental and social effects on the resources and residents of the region, while satisfying industrial and commercial requirements; **Evaluation: The wind turbines are sited on the edge of the developed community to provide electricity, but turbine noise and view-blocking are minimized.**

H-2.2 Facilities shall be sited to be compatible with existing and subsequent adjacent uses and projected community needs; **Evaluation: The wind towers are set off from the community; subsequent adjacent uses are likely to be industrial and/or utility related.**

H-2.3 Consolidate facilities and consider the concurrent use of facilities for public or economic reasons; **Evaluation: The wind turbine sites are as consolidated as feasible; there are no compatible concurrent uses for wind turbines.**
H-2.4 Select sites with sufficient acreage to allow for reasonable expansion of facilities; **Evaluation: If the wind turbine site were expanded, there is room for expansion adjacent to the selected site.**

H-2.5 Site facilities where existing infrastructure, including docks, roads, and airstrips, is capable of satisfying industrial and commercial requirements; **Evaluation: The wind turbines are sited so as to be accessible from access driveways built off an existing road and to tie into the existing power grid in Savoonga.**

H-2.6 Select sites where development will minimize the need for site clearing, dredging, or construction in productive coastal habitats; **Evaluation: minimal site clearing for pad construction is planned; no dredging is involved.**

H-2.7 Site facilities to minimize the probability that petroleum spills or other forms of contamination along shipping routes could adversely affect commercial and subsistence fishing areas of biologically productive or vulnerable habitats, including marine mammal haul-outs, seabird feeding areas, and water-fowl nesting areas.
**Evaluation: N/A to this project, no shipping routes involved.**

H-2.8 Site facilities so that the design and construction of those facilities and the support infrastructure will allow for the free passage and movement of fish, wildlife, and reindeer with due consideration for historic migratory patterns; **Evaluation: If necessary, culverts will be installed in the access driveways to facilitate fish passage. The project will not impede wildlife migratory patterns and passages.**

H-2.9 Site facilities so that areas of particular subsistence, scenic, recreational, environmental, or cultural value will be protected; **Evaluation: AVEC and the Denali Commission consulted with the community and landowners to site the facilities; it is not located in an area of particular scenic, recreational, environmental or cultural value.**

H-2.10 Site facilities in areas of least biological productivity, diversity, and vulnerability, and where effluents and spills can be controlled and contained; **Evaluation: The entire area that encompasses the community of Savoonga is a wetland; development in a wetland area is the only practicable alternative. Wetlands are biologically productive, diverse, and vulnerable. Best management practices will be maintained to first prevent, and then control and contain spills.**

H-2.11 Site facilities where winds and air currents maximize dispersal of airborne emissions which cannot be captured before escape into the atmosphere; **Evaluation: N/A for this project**

H-2.12 Select sites in areas which are designated for industrial and commercial purposes and where traffic is minimized through population centers; **Evaluation: The project is sited on the outskirts of the developed community, near the airport. Traffic through the developed area of the community will be minimized.**

H-2.13 Site and construct facilities such that public access is not unreasonably restricted and where alternate routes for public access can be provided;

H-2.14 Select sites where vessel movements will not result in overcrowded harbors or interfere with commercial or subsistence fishing operations or equipment; and **Evaluation: N/A to this project.**

H-2.15 Cooperate with private landowners, local governments, developers, and State and federal agencies in the development of major industrial and commercial facilities.
**Evaluation: AVEC has consulted and cooperated with the Sivuqaq Corporation (landowners) and the Savoonga Native Corporation (landowners), and local (City of Savoonga), State (SHPO, DNR OPMP), and Federal (USF&W and FAA) agencies in the planning and development of this project.**

**H-3 Use of Existing Energy Facilities**
To the extent feasible and prudent, existing energy facilities shall be used to meet new requirements for exploration and production support bases, transmission/shipment (including pipelines and transportation systems), and distribution of energy resources.
**Evaluation: The project will use the existing power grid to distribute electricity generated by the wind turbines.**

**H-4 Geophysical Surveys**
Geophysical surveys in fresh and marine waters shall be conducted using energy sources such as air guns, gas exploders, and other sources that have been demonstrated to be harmless to fish and wildlife.
**Evaluation: Not applicable to this project.**

## I. Transportation and Utility Systems

**I-1 Planning Processes [Administrative Policy]**
The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities with the opportunity to participate in planning processes for

transportation and utility corridors, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: The affected landowners (Sivuqaq Corporation and Savoonga Native Corporation), and the community of Savoonga were consulted in the development and planning of this project.**

**I-2 Facility Design, Construction, and Maintenance**
Highway, airport, port, and utility system design, construction, and maintenance shall minimize alteration of watercourses, wetlands, and intertidal marshes and consider visual compatibility of facilities with the environment.
**Evaluation: Savoonga is located in a wetlands area; as such this project is located in a wetlands area, there practicable alternative for locating the project. Visual compatibility of the facilities is a design consideration, however, the design does include two approximately 200 foot wind turbines that will be visible from the community.**

**I-3 Siting and Scheduling**
Transportation and utility corridors shall be sited, designed, and operated, with the following standards:
I-3.1 Adverse impacts to habitats, biological resources, subsistence activities, and the community lifestyle shall be minimized;
I-3.2 To the extent feasible and prudent, transportation and utility corridors and facilities shall be consolidated;
I-3.3 Impacts to the free passage and movements of fish, wildlife, and reindeer shall be minimized, with due consideration for historic migratory patterns;
I-3.4 Phasing of construction shall be scheduled in project plans to minimize disturbance during critical migration periods for fish, wildlife, and reindeer; and
I-3.5 Road and pipeline crossings of anadromous fish streams shall be minimized and, to the extent feasible and prudent, consolidated at single locations to reduce multiple impacts to an individual drainage.
**Evaluation: The project will tie into the existing power grid which is consolidated along existing road rights of way. The project will avoid or minimize adverse impacts to the free passage of fish, wildlife, and reindeer. There are no anadromous streams in the area.**

**I-4 Harbors and Shipping Routes**
Harbors and shipping routes shall be sited to avoid reefs, shoals, drift ice and other ice hazards, and other navigational obstructions unless appropriate technology or navigational techniques can mitigate these hazards.
**Evaluation: Not applicable to this project.**

**I-5 Airstrips**
Where feasible and prudent, new airstrips shall be located, designed, and constructed to avoid physical, visual, and acoustical disturbances to residents, subsistence activities, and important and essential fish and wildlife habitats and populations.
**Evaluation: Not applicable to this project.**

**I-6 Electric Transmission Facilities**
Wherever feasible and prudent, transmission lines and towers shall be constructed in existing transportation and utility corridors and shall not be sited in important or essential waterfowl habitats or migration areas.
**Evaluation: Planned electrical transmission lines from the wind turbine towers to connect with the existing grid will be approximately 1,000 feet in length.**

**J. Recreation**

**J-1 Planning Processes [Administrative Policy]**
The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities an opportunity to participate in recreation planning, in

accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: Not applicable to this project.**

**K. Disposals of Interest K-1 Planning Processes [Administrative Policy]**
The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected communities, and affected landowners the opportunity to participate in the planning process for land disposals and disposal of interests within the region, including homestead settlements, subdivisions, agricultural disposals, and leases, in accordance with procedures identified in Chapter 6, Implementation. Coordination should include the village corporation shareholders for the homesite programs and other private land disposal programs.
**Evaluation: Not applicable to this project.**

**K-2 Coordination with Board [Administrative Policy]**
The Bering Straits CRSA Board shall assist the state and federal government in the evaluation of disposals of interest and land disposal programs by providing an assessment of the market for land, the type of disposal that meets the needs of the residents, the location of appropriate disposal areas, and optimum timing and design of disposals, in accordance with procedures identified in Chapter 6, Implementation.
**Evaluation: Not applicable to this project.**

**K-3 State Land Disposals**
The Bering Straits CRSA will participate in the planning process for programmatic state land disposals in accordance with the authorities outlined in AS 38.04.065, AS 38.05.300, AS 38.05.945), 6 AAC 50, and other Department of Natural Resources procedures (Land Administration Data System, or "LADS" process).
**Evaluation: Not applicable to this project.**

**L. Timber**

**L-1 Planning Processes [Administrative Policy]**
Entities proposing timber harvest and processing activities are strongly advised to provide the Bering Straits CRSA Board, affected communities, and affected landowners the opportunity to participate in the planning process, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: Not applicable to this project.**

**L-2 Fire Protection [Administrative Policy]**
The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected communities, and affected landowners the opportunity to participate in the planning process for amendments to fire protection agreements affecting the district, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: Not applicable to this project.**

**L-3 Timber Management Practices**
Best Management practices shall be used in all commercial forestry and timber harvest activities in accordance with the Forest Resource and Practice Regulation (11 AAC 95) of the Forest Practices Act (AS 41.17).
**Evaluation: Not applicable to this project.**

**M. Coastal Access and Easements**

**M-1 Planning Processes [Administrative Policy]**
The state and federal government are strongly encouraged to provide the Bering Straits CRSA Board, affected landowners, and affected communities the opportunity to participate in the planning process for access points and easement routes on state and federal lands, in accordance with the procedures identified in Chapter 6, Implementation.
**Evaluation: Not applicable to this project. No state or federal land will be used or accessed for the**

**project.**

**M-2 Easements**
Recreational, industrial, commercial, and other users shall utilize permitted or identified easements through or adjacent to private lands.
**Evaluation: The project will utilize permitted or identified easements as necessary to access the project and avoid private lands.**

## Consistency Evaluation: Statewide Standards of the AK Coastal Management Program

## Savoonga Wind Turbine Installation Project
**Applicant: AVEC on behalf of the Denali Commission**
**September 19, 2006**
**Agent: Anne Herschleb, CE2 Engineers**

**11 AAC 112.200. Coastal development.**

(a) In planning for and approving development in or adjacent to coastal waters, districts and state agencies shall manage coastal land and water uses in such a manner that those uses that are economically or physically dependent on a coastal location are given higher priority when compared to uses that do not economically or physically require a coastal location.

(b) Districts and state agencies shall give, in the following order, priority to
(1) water-dependent uses and activities;
(2) water-related uses and activities; and
(3) uses and activities that are neither water-dependent nor water-related for which there is no practicable inland alternative to meet the public need for the use or activity.

(c) The placement of structures and the discharge of dredged or fill material into coastal water must, at a minimum, comply with the standards contained in 33 C.F.R. Parts 320 - 323, revised as of July 1, 2003.

**Evaluation: The project is located slightly inland from coastal waters and is not coastal water dependent; no dredged or fill material into coastal waters will take place.**

**11 AAC 112.210. Natural hazard areas.**

(a) In addition to those identified in 11 AAC 112.990, the department, or a district in a district plan, may designate other natural processes or adverse conditions that present a threat to life or property in the coastal area as natural hazards. Such designations must provide the scientific basis for designating the natural process or adverse condition as a natural hazard in the coastal area, along with supporting scientific evidence for the designation.

(b) Areas likely to be affected by the occurrence of a natural hazard may be designated as natural hazard areas by a state agency or, under 11 AAC 114.250(b), by a district.

(c) Development in a natural hazard area may not be found consistent unless the applicant has taken appropriate measures in the siting, design, construction, and operation of the proposed activity to protect public safety, services, and the environment from potential damage caused by known natural hazards.

(d) For purposes of (c) of this section, “appropriate measures in the siting, design, construction, and operation of the proposed activity” means those measures that, in

the judgment of the coordinating agency, in consultation with the department's division of geological and geophysical surveys, the Department of Community and Economic Development as state coordinating agency for the National Flood Insurance Program under 44 C.F.R. 60.25, and other local and state agencies with expertise,
(1) satisfy relevant codes and safety standards; or
(2) in the absence of such codes and standards;
(A) the project plans are approved by an engineer who is registered in the state and has engineering experience concerning the specific natural hazard; or
(B) the level of risk presented by the design of the project is low and appropriately addressed by the project plans.

**Evaluation: Natural hazards in the Savoonga and project area include high wind; the project will be designed to withstand sustained high winds. There is no known flooding in Savoonga and it is located in a seismic zone 1, classified as "minor probability of structural damage," from earthquakes ranging from 3.0 to 4.5 on the Richter Scale.**

**11 AAC 112.220. Coastal access.**
Districts and state agencies shall ensure that projects maintain and, where appropriate, increase public access to, from, and along coastal water.
**Evaluation: Not applicable to this project.**

**11 AAC 112.230. Energy facilities.**
(a) The siting and approval of major energy facilities by districts and state agencies must be based, to the extent practicable, on the following standards:
(1) site facilities so as to minimize adverse environmental and social effects while satisfying industrial requirements; **Evaluation: The wind turbines are sited on the edge of the developed community to provide electricity, but turbine noise and view-blocking are minimized.**
(2) site facilities so as to be compatible with existing and subsequent adjacent uses and projected community needs; **Evaluation: The wind towers are set off from the community; subsequent adjacent uses are likely to be industrial and/or utility related.**
(3) consolidate facilities; **Evaluation: The two wind turbines are co-located and as consolidated as possible taking the broader community into account.**
(4) consider the concurrent use of facilities for public or economic reasons; **Evaluation: There are no compatible concurrent uses for wind turbine facilities.**
(5) cooperate with landowners, developers, and federal agencies in the development of facilities; **Evaluation: AVEC and the Denali Commission have cooperated with local Native corporations (landowners), the City of Savoonga, USF&W (Section 7 consultation), SHPO (Memorandum of Agreement), and FAA (Determination of no hazard to air navigation)**
(6) select sites with sufficient acreage to allow for reasonable expansion of facilities; **Evaluation: If the wind turbine site were expanded, there is room for expansion adjacent to the selected site.**
(7) site facilities where existing infrastructure, including roads, docks, and airstrips, is capable of satisfying industrial requirements; **Evaluation: The wind turbines are sited so as to be accessible from access driveways built off an existing road and to tie into the existing power grid in Savoonga.**
(8) select harbors and shipping routes with least exposure to reefs, shoals, drift ice, and other obstructions; **Evaluation: N/A to this project**
(9) encourage the use of vessel traffic control and collision avoidance systems; **Evaluation: N/A to this project**
(10) select sites where development will require minimal site clearing, dredging, and construction; **Evaluation: minimal site clearing for pad construction is planned; no dredging is involved.**
(11) site facilities so as to minimize the probability, along shipping routes, of spills or other forms of contamination that would affect fishing grounds, spawning

grounds, and other biologically productive or vulnerable habitats, including marine mammal rookeries and hauling out grounds and waterfowl nesting areas; **Evaluation: N/A to this project.**

(12) site facilities so that design and construction of those facilities and support infrastructures in coastal areas will allow for the free passage and movement of fish and wildlife with due consideration for historic migratory patterns; **Evaluation: If necessary, culverts will be installed in the access driveways to facilitate fish passage. The project will not impede wildlife migratory patterns and passages.**

(13) site facilities so that areas of particular scenic, recreational, environmental, or cultural value, identified in district plans, will be protected; **Evaluation: AVEC and the Denali Commission consulted with the community and landowners to site the facilities; it is not located in an area of particular scenic, recreational, environmental or cultural value.**

(14) site facilities in areas of least biological productivity, diversity, and vulnerability and where effluents and spills can be controlled or contained; **Evaluation: The entire area that encompasses the community of Savoonga is a wetland; development in a wetland area is the only practicable alternative. Wetlands are biologically productive, diverse, and vulnerable. Best management practices will be maintained to first prevent, and then control and contain spills.**

(15) site facilities where winds and air currents disperse airborne emissions that cannot be captured before escape into the atmosphere; **Evaluation: N/A for this project**

(16) site facilities so that associated vessel operations or activities will not result in overcrowded harbors or interfere with fishing operations and equipment. **Evaluation:**

(b) The uses authorized by the issuance of state and federal leases, easements, contracts, rights- of way, or permits for mineral and petroleum resource extraction are uses of state concern. **Evaluation: No State and/or federal leases, contracts, rights of way or permits for mineral and petroleum resource extraction are necessary for this project.**

**11 AAC 112.240. Utility routes and facilities.**

(a) Utility routes and facilities must be sited inland from beaches and shorelines unless
(1) the route or facility is water-dependent or water related; or
(2) no practicable inland alternative exists to meet the public need for the route or facility.

(b) Utility routes and facilities along the coast must avoid, minimize, or mitigate
(1) alterations in surface and ground water drainage patterns;
(2) disruption in known or reasonably foreseeable wildlife transit;
(3) blockage of existing or traditional access.

**Evaluation: The utility facility and power line route is sited inland, avoids alterations in water drainage patterns, wildlife disruption, and does not block existing or traditional access routes.**

**11 AAC 112.250. Timber harvest and processing.**

AS 41.17 (Forest Resources and Practices Act) and the regulations adopted under that chapter with respect to the harvest and processing of timber are incorporated into the program and constitute the components of the program with respect to those purposes.

**Evaluation: Not applicable to this project.**

**11 AAC 112.260. Sand and gravel extraction.**

Sand and gravel may be extracted from coastal waters, intertidal areas, barrier islands, and spits if there is no practicable alternative to coastal extraction that will meet the public need for the sand or gravel.

**Evaluation: Not applicable to this project. The material source for the project is an existing permitted source.**

**11 AAC 112.270. Subsistence.**

(a) A project within a subsistence use area designated by the department or under 11 AAC

114.250(g) must avoid or minimize impacts to subsistence uses of coastal resources.

(b) For a project within a subsistence use area designated under 11 AAC 114.250(g), the applicant shall submit an analysis or evaluation of reasonably foreseeable adverse impacts of the project on subsistence use as part of
(1) a consistency review packet submitted under 11 AAC 110.215; and
(2) a consistency evaluation under 15 C.F.R. 930.39, 15 C.F.R. 930.58, or 15 C.F.R. 930.76.

(c) Repealed 10/29//2004, Register 172.

(d) Except in nonsubsistence areas identified under AS 16.05.258, the department may, after consultation with the appropriate district, federally recognized Indian tribes, Native corporations, and other appropriate persons or groups, designate areas in which a subsistence use is an important use of coastal resources as demonstrated by local usage.

(e) For purposes of this section, "federally recognized Indian tribe," "local usage", and "Native corporation" have the meanings given in 11 AAC 114.990.

**Evaluation: Not applicable to this project – it is not located within a designated subsistence use area.**

**11 AAC 112.280. Transportation routes and facilities.**

Transportation routes and facilities must avoid, minimize, or mitigate
(1) alterations in surface and ground water drainage patterns;
(2) disruption in known or reasonably foreseeable wildlife transit; and
(3) blockage of existing or traditional access.

**Evaluation: Transportation to the site will be along an established road and then on two new access driveways. The routes will not alter water drainage patterns (culverts will be used where necessary), disrupt wildlife transit or block existing or traditional access routes.**

**11 AAC 112.300. Habitats.**

(a) Habitats in the coastal area that are subject to the program are
(1) offshore areas;
(2) estuaries;
(3) wetlands;
(4) tideflats;
(5) rocky islands and sea cliffs;
(6) barrier islands and lagoons;
(7) exposed high-energy coasts;
(8) rivers, streams, and lakes and the active floodplains and riparian management areas of those rivers, streams, and lakes; and
(9) important habitat.

(b) The following standards apply to the management of the habitats identified in (a) of this section:
(1) offshore areas must be managed to avoid, minimize, or mitigate significant adverse impacts to competing uses such as commercial, recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;
(2) estuaries must be managed to avoid, minimize, or mitigate significant adverse impacts to
(A) adequate water flow and natural water circulation patterns; and
(B) competing uses such as commercial, recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;
(3) wetlands must be managed to avoid, minimize, or mitigate significant adverse impacts to water flow and natural drainage patterns;
(4) tideflats must be managed to avoid, minimize, or mitigate significant adverse

impacts to
(A) water flow and natural drainage patterns; and
(B) competing uses such as commercial, recreational, or subsistence uses, to the extent that those uses are determined to be in competition with the proposed use;
(5) rocky islands and sea cliffs must be managed to
(A) avoid, minimize, or mitigate significant adverse impacts to habitat used by coastal species; and
(B) avoid the introduction of competing or destructive species and predators;
(6) barrier islands and lagoons must be managed to avoid, minimize, or mitigate significant adverse impacts
(A) to flows of sediments and water;
(B) from the alteration or redirection of wave energy or marine currents that would lead to the filling in of lagoons or the erosion of barrier islands; and
(C) from activities that would decrease the use of barrier islands by coastal species, including polar bears and nesting birds;
(7) exposed high-energy coasts must be managed to avoid, minimize, or mitigate significant adverse impacts
(A) to the mix and transport of sediments; and
(B) from redirection of transport processes and wave energy;
(8) rivers, streams, and lakes must be managed to avoid, minimize, or mitigate significant adverse impacts to
(A) natural water flow;
(B) active floodplains; and
(C) natural vegetation within riparian management areas; and
(9) important habitat
(A) designated under 11 AAC 114.250(h) must be managed for the special productivity of the habitat in accordance with district enforceable policies adopted under 11 AAC 114.270(g); or
(B) identified under (c)(1)(B) or (C) of this section must be managed to avoid, minimize, or mitigate significant adverse impacts to the special productivity of the habitat.

**Evaluation: The project will affect wetlands only and no other habitat listed under (a). A Corps of Engineers 404 Wetlands permit has been applied for; the project will use best management practices in regards to working in wetlands – a stormwater pollution prevention plan will be developed and adhered to, no fueling of vehicles will take place at the project site to avoid surface runoff and contamination of water bodies, petrochemical and other hazardous substance spill clean up material will be available on site, fill will be stabilized and controlled to avoid silts carried to natural bodies of water, silt fencing will be installed parallel to the fill toe and will remain in place until the fill has stabilized; all work areas, access routes and surrounding wetlands involved with the construction will be clearly marked in such a way that equipment operators do not operate outside of the delineated project site.**

**11 AAC 112.310. Air, land, and water quality.**

Not withstanding any other provision of this chapter, the statutes and regulations of the Department of Environmental Conservation with respect to the protection of air, land, and water quality identified in AS 46.40.040(b) are incorporated into the program and, as administered by that department, constitute the exclusive components of the program with respect to those purposes.

**Evaluation: A water quality assurance certification will be requested from the Alaska Department of Environmental Conservation concurrent with the Corps of Engineers 404 Wetlands permit. The project will not adversely affect air, land, and water quality.**

**11 AAC 112.320. Historic, prehistoric, and archeological resources.**

(a) The department will designate areas of the coastal zone that are important to the study,

understanding, or illustration of national, state, or local history or prehistory, including natural processes.

(b) A project within an area designated under (a) of this section shall comply with the applicable requirements of AS 41.35.010 – 41.35.240 and 11 AAC 16.010 – 11 AAC 16.900.

**Evaluation: A Memorandum of Agreement relating to cultural resources was signed by the Denali Commission, SHPO, AVEC, and representatives of the Savoonga Native Corporation and the Sivuqaq Corporation was signed in 2004. The MOA provides for an archeologist to monitor on-site construction and delineates protocol for dealing with any found cultural materials.**

**11 AAC 112.900. Sequencing process to avoid, minimize, or mitigate.**

(a) As used in this chapter and for purposes of district enforceable policies developed under 11 AAC 114, "avoid, minimize, or mitigate" means a sequencing process of
(1) avoiding adverse impacts to the maximum extent practicable;
(2) where avoidance is not practicable, minimizing adverse impacts to the maximum extent practicable; or
(3) if neither avoidance nor minimization is practicable, conducting mitigation to the extent appropriate and practicable; for purposes of this paragraph, "mitigation" means
(A) on-site rehabilitation of project impacts to affected coastal resources during or at the end of the life of the project; or
(B) to the extent on-site rehabilitation of project impacts is not practicable, substituting, if practicable, rehabilitation of or an improvement to affected coastal resources within the district, either on-site or off-site, for a coastal resource that is unavoidably impacted.

(b) For a project that requires a federal authorization identified under 11 AAC 110.400, the coordinating agency shall consult with the authorizing federal agency during that federal agency's authorization review process to determine whether the mitigation requirements proposed by the federal agency for that federal authorization would satisfy the mitigation requirements of (a)(3) of this section. If the coordinating agency determines that the mitigation requirements proposed by the federal agency would not satisfy the mitigation requirements of (a) (3) of this section, the coordinating agency shall require appropriate mitigation in accordance with (a) (3) of this section.

(c) For purposes of (a) (3) of this section, a determination of practicability includes the consideration of the following factors, as applicable:
(1) the magnitude of the functional values lost by the impacted coastal resources;
(2) the likelihood that the mitigation measure or improvement will succeed in actually rehabilitating the impacted coastal resources; and
(3) the correlation between the functional values lost by the coastal resources impacted and the proposed mitigation measure or improvement.

(d) To the extent feasible and not otherwise addressed by state or federal law, any requirements imposed under (a)(3) of this section for mitigation through on-site or off-site rehabilitation of project impacts shall be established by the coordinating agency at the time of the project's consistency review under 11 AAC 110.

(e) In applying the mitigation process described in (a) (3) of this section, unless required by a federal agency issuing an authorization identified under 11 AAC 110.400 for the project, the coordinating agency may not require
(1) that no net loss of impacted coastal resources occur; or
(2) monetary compensation.

**Evaluation: The project will avoid or minimize adverse impacts to wetlands to the maximum extent practicable. Mitigation will not be necessary, no coastal resources will be impacted and/or need rehabilitation.**